PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Fumigating Composition Containing D.D.T.

I, HINSON WU, Chinese, Hinson Laboratory, Room 401, No. 12, Queen's Road Central, Hong Kong, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

(1) GENERAL DESCRIPTION AND PAST WORK OF (2,2-BIS (*p*-CHLOROPHENYL)-1,1,1-TRICHLORETHANE (DDT).

DDT one of the most valuable insecticides available today, is not a new compound. It was discovered in 1874 by Zeidler, but no attempt was made to determine its value as an insecticide. In 1939 I. R. Geigy Co., of Switzerland, reported the effectiveness of DDT against the Colorado potato beetle and certain insects and about 1944 the U.S. Army used DDT in Italy for the control of typhus epidemic. Later on it was advocated that DDT was a highly effective insecticide against lice and mosquito. Since then the DDT has attracted the attention of the general public in the world as an effective insecticide. Formulations for DDT have been developed and up to the present time they may be classified as dusts, wettable powders, solutions, emulsions and aerosols. Among the above formulations DDT is commonly used in solutions or an aerosol for spray. Up to the present time no report has been made on the utilization of DDT in mosquito coil incense for burning in the United Kingdom or elsewhere in the world.

(2) STORY OF MY RESEARCH.

I have been running the mosquito coil business since 1939. At the beginning pyrethrum was purchased from Japan for manufacturing my mosquito coil. Near the end of World War II in 1945 when Japan surrendered, the supply of pyrethrum was suspended. In order to keep on my mosquito coil business, I had to look for a substitute. Consequently, research and experiments were begun in my private laboratory. More than 100 chemicals and plant materials have been collected for the purpose. In each experiment live mosquitoes and flies were treated in a specially made screen cabin so as to prove the toxicity, effectiveness and the character of being non-poisonous to human beings. But all the above tested formulas failed to do so for lacking one or another of these important characters.

(3) MY SUCCESS IN UTILIZATION DDT POWDER FOR MOSQUITO COIL.

Fortunately in the Spring of 1946, I obtained one pound of DDT powder from the United Nations Relief and Rehabitation Administration in China. Then I continued to make experiments with the same objective in mind. I found out the toxicity to mosquito is all right and the needed material is valuable and economical. Furthermore abundant smoke of DDT was applied to small rats and guinea pigs and no sign of ill effects were noted. But when DDT was employed in mosquito coil, I noted that it stopped burning now and then on account of the appearance of some oily substance in DDT on burning. Experiments were continued for the improvement and at the end of 1947, I succeeded at last in discovering this new method of compounding DDT with several supplementary fillers. Since then I have used chiefly DDT for making my mosquito coil up to the present. An important advantage of my invention is its low cost compared with the old formula containing pyrethrum.

(4) PREPARATION.

The proportion by weight of DDT which I used in my invention is 10% while 90% are supplementary raw materials in powder form which are plant products of Canton, China. These fillers are as follows:—

a. White gum (Almus japonica) stems and roots in powder form, 55%.

b. Cheung sik (Achillea sibirica) stems and sprigs in powder form, 10%.

[*Price* 2/8]

c. Fa fan (Cryptomeria japonica) trunks and branches in powder form, 25%.

Among the above materials white gum and cheung sik are used to adhere the ingredients together, while fa fan helps the DDT to burn. Firstly white gum, cheung sik, fa fan and DDT powder are mixed. Then cold water is added and well mixed to form a mouldable mass. At last the above mentioned mass is handled into a mechanical mould press in order to be pressed to a required coil shape. Then the finished coil is to be dried under sunshine or in a drying chamber. Now a match may be applied to burn it. An abundant white smoke is produced with an agreeable smell of almond and keeps mosquito away.

What I claim is:—

1. A fumigating composition comprising an intimate mixture of 2,2-bis(*p*-chlorophenyl) - 1,1,1 - trichloro ethane (DDT), white gum, cheung sik and fa fan.

2. A fumigating composition as in claim 1 containing substantially 10% by weight of DDT, 10% by weight of cheung sik, 25% by weight of fa fan and 55% by weight of white gum.

3. A fumigating composition as in claims 1 and 2 in the form of a coil.

4. A process of producing a fumigating composition according to claim 3, which comprises intimately mixing the powdered ingredients, adding sufficient water to form a mouldable mass, pressing said mass into a suitable mould to form a coil, and thereafter drying said coil.

HINSON WU.

PROVISIONAL SPECIFICATION

Fumigating Composition Containing D.D.T.

I, HINSON WU, Chinese, Hinson Laboratory, Room 401, No. 12, Queen's Road Central, Hong Kong, do hereby declare this invention to be described in the following statement:—

Formulations for DDT have been developed up to the present time may be classified as dusts, wettable powder, solutions, emulsions, and aerosol. Among the above DDT is most commonly used in solutions or aerosol for spray. I have been running the mosquito coil business since 1941. At the beginning I chiefly used old formula of pyrethrum powders which was purchased from Japan. About the end of World War II when Japan was surrendered, the supply of pyrethrum was suspended. In order to keep on my mosquito coil business, I had to look for a substitute. Consequently, research and experiments were begun in my private laboratory. More than 100 chemicals and plant materials have been collected for the purpose, but all failed for lacking one or the other requirement. Fortunately in the Spring of 1946, I continued experiment with DDT by burning with the same objective in mind. I have applied abundant smoke of DDT to live mosquitoes in special made screen box and found the toxicity is all right, but it stopped burning now and then on account of the appearance of some oily substance in DDT during burning. Experiments were continued for the improvement and I at last succeeded in discovering this new utilization of DDT for mosquito coil incense for burning. Furthermore abundant smoke of DDT was applied to small rats and guinea pigs and no ill effect was noted; therefore I can conclude the same is harmless to human beings. Up to the time of my discovery, no reports have been made on the utilization of DDT for manufacturing mosquito coil incense for burning in the United Kingdom or elsewhere in the world. I therefore apply for the patent. Complete information, proportion, and the method of preparation or use of my above mentioned invention will be described in detail in my Complete Specification which I intend to submit to you later on. An important advantage of my invention is its low cost compared with the old formula containing pyrethrum.

Dated the 9th day of December, 1950.

HINSON WU.

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